Earth Science

Advanced Hybrid On-Board Data Processor - SpaceCube 2.0

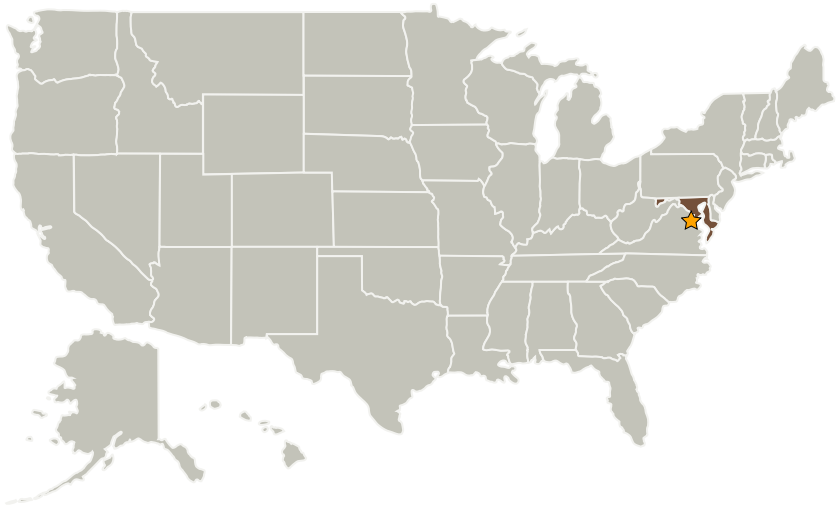
Completed Technology Project (2009 - 2012)

Project Introduction

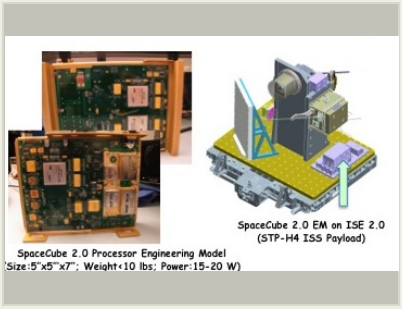
Develop advanced on-board processing to meet the requirements of the Decadal Survey missions:
advanced instruments (hyper-spectral, SAR, etc) require advanced on-board processing to facilitate the timely conversion of ES "data" into ES "information"
mission enabling technology to reconfigure/adapt on the fly; detect and react to events; produce data products on-board for direct downlink, quick look, and "first responder" real-time awareness; enable "sensor web" multi-platform collaboration; and perform on- board "lossless" data reduction by moving "ground" functions on-board

SpaceCube 2.0 will directly support ACE, DESDynI, GEO-CAPE, HyspIRI, ICESat-II, LIST, SCLP, SMAP, SWOT, and 3D-Winds.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★NASA Headquarters(HQ)	Lead Organization	NASA Center	Washington, District of Columbia



Project Image Advanced Hybrid On-Board Data Processor - SpaceCube 2.0

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Organizational Responsibility

Responsible Mission Directorate:

Science Mission Directorate (SMD)

Lead Center / Facility:

NASA Headquarters (HQ)

Responsible Program:

Earth Science

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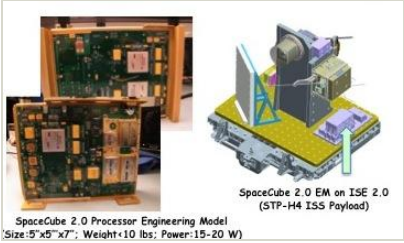
Primary U.S. Work Locations

Maryland

Images



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Project Image Advanced Hybrid On-Board Data Processor - SpaceCube 2.0
(https://techport.nasa.gov/image/1619)

Project Management

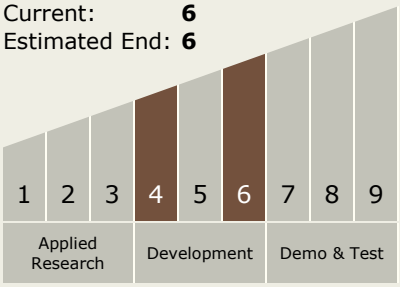
Program Director:
George J Komar

Project Manager:
Michael S Seablom

Principal Investigator:
Thomas P Flatley

Technology Maturity (TRL)

Start: **4**
Current: **6**
Estimated End: **6**



Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.1 Avionics Component Technologies
    - TX02.1.3 High Performance Processors

Target Destination

Earth